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Statement A per telecon Dr. David Evans  
ONR/Code 1122 Arlington, VA 22217-5000

NWW 1/9/92

## FINAL TECHNICAL REPORT

ONR GRANT # N00014-90-J4119

Douglas R. Caldwell  
Acquisition of SeaSoar Instrument

1991

Funds awarded under this grant were used for acquisition of a SeaSoar towed vehicle system, consisting of the following:

- SeaSoar towed underwater vehicle
- SeaSoar deck control unit
- Spare parts and diagnostic equipment
- 8.2 mm, 7-conductor tow cable with low-drag fairing
- Electro-hydraulic cable spooling winch with 8-channel slip ring

This instrument system will be used from R/V WECOMA and other UNOLS vessels as a primary measurement tool for Office of Naval Research-sponsored research projects on upper ocean circulation and dynamics.

SeaSoar is a towed, undulating vehicle, which is controllable from the deck of the towing vessel. It can be directed in an undulating path between the surface and depths of up to 350 meters (with faired cable, 125 meters with unfaired cable). Upper and lower limits of towing undulations are set by the operator. SeaSoar carries instrumentation of various types, usually conventional CTDs. The vehicle can be adapted to most instruments which can fit within the size constraints imposed by the vehicle body. SeaSoar is towed at speeds of 6 to 10 knots, usually at around 8 knots. This relatively high towing speed allows rapid surveys of relatively large ocean areas, and allows repeated surveys of smaller areas for intensive study.

The vehicle will be modified to accomodate various instruments, including SeaBird CTD systems, Neil Brown CTD systems, flow-through plankton counters, fluorometers, beam transmissometers, and other special-purpose instruments. Preliminary tests of the SeaSoar system show that it holds great promise as a tool for studies of upper-ocean phenomena.

## LIST OF PUBLICATIONS

Not applicable to this grant

Oregon State Univ., Corvallis  
per telecon ONR 1/23/92

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